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US/N 09/810,005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Zhongze Wang et al.
Serial No.: 09/810,005
Filed: March 16, 2001
Title: METHOD TO REDUCE TRANSISTOR CHANNEL LENGTH USING SDOX

Examiner: Samuel A. Gebremariam
Group Art Unit: 2811
Docket: 303.747US1

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Commissioner for Patents
Washington, D.C. 20231

Applicant has reviewed the Office Action mailed on May 23, 2002. Please amend the above-identified patent application as follows.

IN THE SPECIFICATION

Please make the paragraph substitutions indicated in the appendix entitled Clean Version of Amended Specification Paragraphs. The specific changes incorporated in the substitute paragraphs are shown in the following marked-up versions of the original paragraphs:

On page 2, paragraph 5, please make the following changes:

As shown in Figure 2c, in the oxidizing process, oxygen is diffused into the gate [520] 220 from the side to form the first side oxide region 236 as shown by arrows 244. Oxygen is also diffused through the gate oxide 210 and into the bottom of the gate [520] 220 to form the first bottom oxide region 238 as shown by arrow 246.

IN THE CLAIMS

Please substitute the claim set in the appendix entitled Clean Version of Pending Claims for the previously pending claim set. The substitute claim set is intended to reflect amendment of previously pending claims 1, 3, 4, 7, 9, 10, 14, 16, 17, 21, 23, 24, 27, 28, 30, 31, 35, 37, 38, 41, 42, 44, 45 and 54. The specific amendments to individual claims are detailed in the following marked up set of claims.

1. (Amended) A method of reducing a channel length in a transistor, comprising:
forming a gate dielectric layer on a semiconductor substrate;
coupling a barrier layer to the gate dielectric layer, wherein the barrier layer